

REMARKS

The Office Action dated January 8, 2007 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1 and 15 are amended to more particularly point out and distinctly claim the subject matter of the present invention. Support for the amendments is found at least on page 6 line 18 – page 7 line 4 of the present specification. Claims 16-19 are added. Support for the new claims is found at least in page 6 lines 10-11 of the present specification. No new matter is added. Claim 1-19 are respectfully submitted for consideration.

The Office Action objected to claims 1 and 5 because of informalities. Applicants respectfully submit that claim 1 is amended to correct any known typographical errors. Applicants further submit that claim 5, line 12, does not contain any known typographical informalities. Accordingly, withdrawal of the objection to the claims is respectfully requested.

The Office Action rejected claims 1-7 under 35 U.S.C. 103(a) as being obvious over EP 0981229 to Hwang et al. (Hwang), in view of US Patent No. 6,785,262 to Yao et al. (Yao). The Office Action took the position that Hwang disclosed all of the features of these claims, except for the feature of a controller, wherein the indication is a coded value of a length of the data queue. The Office Action asserted that Yao disclosed this feature.

Applicants respectfully submit that the cited references taken individually or in combination, fail to disclose or suggest all of the features of these claims.

Claim 1, from which claims 2-4, 6 and 7 depend, is directed to a method of controlling communication resources. An indication of future need of communication resources in a first network element is monitored. The indication from the first network element is sent to a controller, wherein the indication is a coded value of a length of a data queue. The communication resources between the first network element and a second network element are controlled based on this indication. Communications resources in a transmission from the first network element to the second network element are controlled, wherein the communication resources are allocated by the controller.

Claim 5 is directed to a method of controlling communication resources. An indication of future need of communication resources in a first network element is monitored. The indication from the first network element is sent to a controller. The communication resources are controlled between the first network element and a second network element based on this indication. Communication resources are controlled in a transmission from the first network element to the second network element across a network, wherein the communication resources are allocated by a controller in the network. The controller is separate and independent from the first network element, and the indication includes information about a transmit buffer of the first network element, wherein the indication includes coded values corresponding to predefined resources.

Applicants respectfully submit that the cited references fail to disclose or suggest all of the features of any of the pending claims.

Hwang is directed to controlling asymmetric dynamic radio bearers in mobile packet data communications. Hwang discloses a media access controller (MAC), which is a part of the mobile station (see Figure 1). The MAC examines the amount of data stored in a transmit buffer during transmission of mobile packet data in order to increase or decrease the number of the plural radio bearers established, and for establishing a plurality of radio bearers used to send the transmit data at a data rate corresponding to the radio data service (column 4 lines 18-25). Once the amount of data in the transmit buffer is examined in predetermined time intervals, the amount of stored data is compared with threshold values, and the radio packet data service is provided with a number of plural radio bearers for a predetermined data rate. See column 5 lines 18-55.

Yao is directed to reducing voice latency in a voice-over-data wireless communication system. In Yao, data frames are created from audio information by a vocoder and stored in a transmitter queue. Prior to storage, some of the data frames are eliminated, dropped, and are not stored in the queue. In a receiver, data frames are generated from received signals and stored in a queue and are similarly eliminated or dropped. Latency is reduced by the elimination or dropping of the data frames in the transmitter and receiver. As discussed above, Yao is relied upon in the Office Action to disclose the feature of the indication of the length of the data queue is a coded value.

Applicants respectfully submit that the cited references fail to disclose at least the feature of sending an indication of the amount of data in the transmit buffer to a controller, and the controller allocating resources based on the indication, as recited in claim 1 and similarly recited in claim 5. The Office Action relied on Hwang to disclose this feature. However, as previously stated, in Hwang the data in the buffer is merely examined during transmission of the mobile packet data. Hwang is otherwise silent with regards to a controller receiving the indication and Yao fails to cure this deficiency.

Further, Applicants respectfully submit that the cited references fail to disclose or suggest at least the feature of the indication of the length of the data queue is a coded value, as recited in claim 1 and 5. The Office Action relied on Yao to disclose this feature. However, Applicants respectfully submit that Yao fails to cure the admitted deficiencies of Hwang.

Yao merely discloses that the vocoder frame contains a number of information bits depending on the data rate for the particular frame, and that the quality of the communications channel is determined by determining the length of the data queue. For example, if channel quality increases i.e., the length of the queue decreases below a predetermined threshold, frames are dropped at a first rate. On the other hand, if channel quality decreases, i.e., the length of the queue increases above the predetermined threshold, frames are dropped at a second rate. See column 9 lines 57-59 and column 12 lines 6-14 of Yao. However, Yao fails disclose or suggest sending the information bits to a controller to control resources. See Yao at column 12 lines 41-51. Yao merely

discloses that the length of the data queue is measured to determine communication channel quality. Thus, the rate at which frames are dropped are based on the measured channel quality. While the Office Action points out that Yao discloses a base station controller BSC (reference number 14 of Fig. 3), Yao merely discloses that the BSC receives the processed data from a base station. Yao does not disclose or suggest that this processed data is included in the vocoder frames that are sent to the controller, and used to control resources. Instead, the length of the queues is utilized to determine channel quality, in order to determine the rate at which bits are dropped.

Thus, based on the above, the cited references of Hwang and Yao fail to disclose or suggest at least the features of sending the indication from the first network element to a controller, wherein the indication is a coded value of a length of a data queue, controlling the communication resources between the first network element and a second network element based on this indication, and controlling communications resources in a transmission from the first network element to the second network element, wherein the communication resources are allocated by the controller, as recited in claims 1 and 5.

Applicants submit that because claims 2-4, 6 and 7 depend from claim 1, these claims are allowable at least for the same reasons as claim 1, as well as for the additional features recited in these dependent claims.

Based at least on the above, Applicants respectfully submit that the cited references fail to disclose or suggest all of the features recited in claims 1-7.

Accordingly, withdrawal of the rejection under 35 U.S.C. 103(a) is respectfully requested.

The Office Action rejected claims 8-10, 12 and 13 under 35 U.S.C. 103(a) as being obvious over Yao and Hwang. The Office Action took the position that Yao disclosed all of the features of these claims except that the allocation being performed in accordance with information transmitted from the first stations which indicate a need for communication resources. The Office Action asserted that Hwang disclosed this feature. Applicants respectfully submit that the cited references taken individually or in combination, fail to disclose or suggest all of the features recited in any of the above claims.

Claim 8, from which claims 9-14 depend, is directed to a system for controlling communication resources in a network including a plurality of first stations. A second station is connected to the plurality of first stations through a plurality of communication links. A controller is configured to control the allocation of the communication resources among the links, the controller being separate and independent from the first stations. The allocation is performed in accordance with information transmitted from the first stations which indicates a need for communication resources based upon lengths of data queues in the first stations. The information is a coded value of the lengths of the data queues.

Applicants respectfully submit that the cited references taken individually or in combination, fail to disclose or suggest all of the features recited in any of the above claims.

Yao and Hwang are discussed above. Applicants respectfully submit that the cited references fail to disclose or suggest at least the features of a controller configured to control the allocation of the communication resources among the links, the controller being separate and independent from the first stations, wherein the allocation is performed in accordance with information transmitted from the first stations which indicates a need for communication resources based upon lengths of data queues in the first stations, and wherein the information is a coded value of the lengths of the data queues, as recited in claim 8 for the same reasons discussed above regarding claims 1 and 5.

Applicants respectfully submit that because claims 9, 10, 12 and 13 depend from claim 8, these claims are allowable at least for the same reasons as claim 8, as well as for the additional features recited in these dependent claims.

Based at least on the above, Applicants respectfully submit that the cited references fail to disclose or suggest all of the features of claims 8-10, 12 and 13. Accordingly, withdrawal of the rejection under 35 U.S.C. 103(a) is respectfully requested.

The Office Action rejected claim 11 under 35 U.S.C. 103(a) as being obvious over Yao and Hwang, in further view of US Patent No. 6,975,604 to Ishida et al. (Ishida). The

Office Action took the position that Yao and Hwang disclosed all of the features of these claims except a data generator. The Office Action asserted that Ishida disclosed this feature. Applicants respectfully submit that the cited references, taken individually or in combination, fail to disclose or suggest all of the features of any of the above claims. Specifically, Yao and Hwang are deficient at least for the reasons discussed above regarding claim 8 and Ishida fails to cure these deficiencies.

Yao and Hwang are discussed above. Ishida is directed to a base station controller and mobile station. In a communication system a plurality of base stations provide communications between two mobile stations and communication links. The communication links are selected based on their channel quality. Communication information is demultiplexed for each link, and the data is sent parallel by way of the demultiplexed communication links to allow high speed communications. Fig. 6 of Ishida describes a transmit section of a mobile terminal. The mobile station includes an encoder circuit 616 and a frame generator circuit 617. See column 8 lines 26-43 of Ishida.

However, Applicants submit that that Ishida is silent with regards to a controller configured to control the allocation of the communication resources among the links, the controller being separate and independent from the first stations, wherein the allocation is performed in accordance with information transmitted from the first stations which indicates a need for communication resources based upon lengths of data queues in the

first stations, and wherein the information is a coded value of the lengths of the data queues. Therefore, Ishida fails to cure the deficiencies of Yao and Hwang.

Based at least on the above, Applicants submit that the cited references fail to disclose or suggest all of the features of claim 1. Accordingly, withdrawal of the rejection under 35 U.S.C. 103(a) is respectfully requested.

The Office Action rejected claim 14 under 35 U.S.C. 103(a) as being obvious over Yao. The Office Action asserted that Yao disclosed all of the features of these claims except decoding a code representative of a length of the data queue. The Office Action took the position that it would have been obvious for one skilled in the art to include a decoder because the decoder would decode the data frames generated by the voice encoder 406 based on the length of the queue. Applicants respectfully submit that Yao fails to disclose or suggest all of the features of claim 14.

Claim 14 is directed to a base station that includes a receiver. A decoder is configured to decode a code representative of a length of a data queue in at least one mobile station. A controller is configured to control allocation of communication resources. The decoder provides queue length information for the at least one mobile station to the controller.

Applicants submit that the Office Action is inappropriately reading features into Yao. The decoder 614 in Yao is a part of a receiver unit 600 that receives vocoder frames generated by the TCP processor, to generate a digitized replica of the original signal transmitted from the transmitter 400. See Figs. 4 and 6, column 13 lines 55-60.

Yao does not disclose or suggest a base station that includes a decoder and a controller as recited in claim 14. Thus, Yao fails to disclose or suggest all of the features of claim 14.

Based at least on the above, Applicants respectfully submit that Yao fails to disclose or suggest all of the features of claim 14. Accordingly, withdrawal of the rejection under 35 U.S.C. 103(a) is respectfully requested.

The Office Action rejected claim 15 under 35 U.S.C. 103(a) as being obvious over Yao, in view of Ishida. The Office Action took the position that Yao disclosed all of the features of these claims except a data generator. The Office Action asserted that Ishida disclosed this feature. Applicants respectfully submit that the cited references taken individually or in combination, fail to disclose or suggest all of the features of any of the pending claims.

Claim 15 is directed to a mobile station including a data generator. A data queue is configured to receive data packets from the data generator. An encoder is configured to encode a code representative of a length of the data queue. A transmitter is configured to transmit data with said code included therein as a field.

Yao and Ishida are discussed above. Applicants respectfully submit that the cited references fail to disclose or suggest at least the feature of a data queue configured to receive data packets from the data generator, as recited in claim 15. The Office Action relied on Ishida to disclose this feature. However, Ishida merely discloses a data generator to send data to an encoder circuit 616 and not to a data queue, as recited in claim 15.

Based at least on the above, Applicants respectfully submit that the cited references fail to disclose or suggest all of the features of claim 15. Accordingly, withdrawal of the rejection under 35 U.S.C. 103(a) is respectfully requested.

As stated above new claims 16-19 are added. Applicants respectfully submit that each of claims 16-19 recites features that are neither disclosed nor suggested in any of the cited references.

Applicants respectfully submit that each of claims 1-19 recites features that are neither disclosed nor suggested in any of the cited references. Accordingly, it is respectfully requested that each of claims 1-19 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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